

THE EFFECTIVENESS OF WEB ASSISTED ENGLISH LANGUAGE INSTRUCTION ON THE ACHIEVEMENT AND ATTITUDE OF THE STUDENTS

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Abstract: The purpose of this study was to determine the effectiveness of the exercises of English language grammar instruction on the achievement of the students when it is applied on web assisted. The study had been executed in accordance with the experimental study model. The experiment group of the study has used a web site that was prepared and they made the exercises of English language grammar in the study. For this purpose, the experiment group subjects has activities such as Chat (IRC), writing the message on the discussion board, and playing the games on the web by using the grammar rules besides answering the exercise questions that are on the web. The control group subjects have similar learning activities through traditional learning methods. The data of study was collected by “English Language Grammar Test” (ELGT) and “English Language Attitude Scale” (ELAS), which their validity and reliability has been tested. It was found that the English language grammar achievement of the experimental groups’ subjects who made the English grammar exercises on Web assisted was higher than the control groups’ subjects who made them using traditional method.

Introduction

The most important difference that has taken place in the world in the last few years is the rapid development and spreading of information technology in every field. It is accepted by all environments that information technology provides value in materialistic and moral aspects, and that is widely used in fields of education, economy, health, agriculture, social life, and entertainment.

This new change that has come about in technology could possibly be due to the ability of reflecting the rapidly developing knowledge on human life and the active and productive technology being put to work. In other words, it is the new information technology being used in all education and instruction processes.

Science, technology and information technology are basic concepts of making education gain science, professionalism and making the consideration of educational technology in respect of contemporaries possible and putting it to work (Keser, 2000).

Benefiting from the possibilities of technology in education and the technological dimension of educational technology in education and instruction is evaluated in a reflective field. The concept of education and instruction contains all visual and auditory communicative atmosphere used in all education and instruction activities. Tools such as computers, language laboratories, overhead projectors, pictures, slide projectors.... etc. can be shown as examples of practice in education and instruction.

Giving individuals required general skills and raising those qualities and helping them set the maximum out of their effort to learn all means will only be possible by making use of the available educational technology. In a more contemporary meaning: “in order to attain a more effective education, putting human sources and nonhuman sources to work and planning all processes of teaching and instruction in respect of special concepts and practicing and evaluating them is a systematic approach” (Eisele & Eisele, 1994).

As educational technology is a field of discipline which makes choices of scientific solutions for problems like education and instruction, it takes advantage of possibilities presented by new technologies in solving problems that come across in the field of practicing education.

World Wide Web which is shortly known as the “web” is a web of knowledge and hypermedia/hypertext communication on the Internet. Knowledge that has come from all over the world is linked together and electronically saved thanks to this web. Thus, the web is getting stronger, more dynamic and turning into properly effective electronic environment. Thanks to the web users, who are transferring, sharing or swapping information and communicating and thus enriching the source of information in this field. What follows is that this electronically

communicated tool has the potential to bring the world to your home, office or wherever you can link to the Internet (Kurubacak, 1999).

It affects the qualities of education as it provides possibilities for learners to learn new information by going to libraries, information banks, broadcasts and other environs that aim at giving information with the use of the internet (Mioduser & Others, 2000).

Web sites which are designed to support the process of learning and teaching provides students with summaries of subjects, educational games, exercises, bulletin boards, research and exhibition of homework. Also by making their own web page and going into information environs, it allows students to do activities like revision, solving problems and exercises (Driscoll, 1998). In other words, learning environs which are assisted by the web bring about new approaches to the process of education and instruction and presenting possibilities for improving the environs of education and instruction.

Today, the World's global web, the Internet, has developed learning in the environment of web sites. These web sites present an educational activity that refers to all levels in every subject (Hackbarth, 1997).

This service that is provided for education by the Internet is developing in respect of making communication in the process of learning and teaching. Being an interactive environment with the communication of computers and Internet (e-mail, bulletin boards and chat), gives students possibilities like; communicating with peer groups, teachers and experts and running partnerships (Mioduser & others, 2000).

Today, the web is on the way of being an important learning environment which provides students with a new and rich style of learning. The web is able to submit a world-wide democratic learning environment to the students, who are from different cultures, speak different languages without sex discrimination (Kurubacak, 1999).

At first it seems the learning environment is assisted by the web in the environment of the Internet and can be separated as follows; a) the identification of the creators, b) aims, c) target masses, d) the scientific view and belief of the ones who develop and e) technological configuration (Mioduser & others, 2000).

You can communicate with other Internet users from other countries, attain information from information banks and use the computer and Internet correctly and effectively. It is known that English language is the most used common language in the world. Nobody can argue with the importance of foreign languages, especially English.

As it is known, the education of a foreign language aims at four basic skills. These are speaking, listening, reading and writing. Grammar, however, isn't taken as a different skill. But in these four basic skills, grammar is a subject that must be learnt (Odabasi, 1994). In other words, grammar is a field which helps thinking, speaking, and writing correctly (Sever, 1995). According to Demirel (1993) in the education of foreign languages; grammar is being taught more than skills in secondary schools.

Foreign language courses, especially English language, are seen as compulsory courses in the education program. For example, in the North Cyprus, in middle education, Lycee-I classes (K9) there are six English Language lessons in a week.

According to Curningham (1998), the process of using technology in teaching and explaining foreign languages began with the method of grammar-translation. It developed with language cassettes, video cassettes, computer assisted instruction, distance education, interactive satellite television and interactive medium.

The new developments in educational technology have seen a new style in communication assisted by the web. With the help of new technologies, such as; e-mail, chat, pen pal and the bulletin board, the teaching of foreign language has been spreading more and more as days go by.

Many researchers are concerned with the subject of foreign language teaching, benefiting from the web environment during the process of education and instruction. They are trying to find out the benefits these environs provide the students, who are learning foreign languages. However saying that these researchers are efficient from point of being qualitative and quantitative could be optimistic (Toyoda & Harrison, 2002).

According to Altun (2002), the development in multimedia and Hypertexts' effects on the skills of reading and comprehending isn't late in being in the interest of researchers.

Extended researches are being done to determine the reading and comprehension process used by readers who use the native language, and the strategies that are extended in these processes. However, these researches are mostly being done in environments whose mother tongue is English language what they are doing or thinking while in the process or how they react to this process isn't of any interest to us at the moment.

Specific researches have started together with the widespread of the use of new technologies in foreign language education. (Ergin, 1986; Odabasi, 1994; Öztürk, 1995; Öz, 1995; İnan, 1997; Alkan, 1997; Koçak, 1997; Şentürk, 1997; Yavuz, 1998; Yiğit, 1999; Gürkaya, 1999; Aytürk, 1999; Donat, 2000; Tuzcuoğlu, 2000).

The most important and common characteristic of these researchers is that they are all related to the new technologies since they have first started being used in education. In other words, these researches aim to show the

contributions the new technologies will give to English language education and the contributions the students in private instructions will give to the English language teaching-learning process. According to The Council of Higher Education in Turkey (YÖK) Document Center (May, 2003) data, there has been a number of researches done to determine the use of the latest technology; the web, in foreign language education. Based on this result we can easily say that there is a deficiency in respect of researches.

A lot of researches and publications related to the use of the web and Internet usage in foreign language education and teaching in the foundation of scientific criterions have been observed in other countries too; (Frizler, 1995; Iheanacho, 1997; Lutcavage, 1997; Gardiner, 1998; Meloni, 1998; Backer, 1998; Fidelman, 1998; Moore, 1998; Cunningham, 1998; Felix, 1998; Hanson, 1999; Bricknall, 1999; Giles, 1999; Joe & Choi, 2000; Sotillo, 2000; Sanders & Sheatler, 2001; Greany, 2002).

It is obvious that these researches and publication are done by field observing, defining opinions and fields, although some experimental studies have also been done (ERIC, May, 2003). Based on this result, we can easily say scientific researches are required in respect of the use of the web in the environment of foreign language education and teaching.

In the present day for an ordinary man to be successful in his job, must know at least one foreign language-preferably English and should have efficiency in computing. Putting the discoveries of scientific researches of the education of foreign language to work could provide major benefits in the process of acquisition and teaching. It could be said that it is compulsory to make a scientific research to see the good the web does, and achievement it gives to the students, who are in the center of the teaching and acquisition process.

Purpose

The purpose of this study was to determine the effectiveness of web assisted English language grammar instruction on the achievement and attitude of students. There are some questions which are determined to reach the general purpose.

1. Is the level of English language grammar score higher of those who do the English grammar exercises with assisted from the web (experimental group) or of those who do their lessons in the traditional teaching way (control group)?
2. Is there an expressive difference in the results of the attitude towards English language in the pre-test and the last test done between the experimental and control groups?

METHOD

Participants

The subjects of this experimental study were students of the Lapta Yavuzlar Lisesi in Lycee I, which is a public school in North Cyprus. There were three I (K9) classes in the school mentioned. When separated into these classes the achievement level of the students' secondary school diploma grade was taken into consideration. As a result of the drawing of lots, the class B became the experimental group, the Class A, the control group and the Class C consisted of those who didn't take place in the research. It was said to those students in the experimental and the control group that they were free to change places with those in class C, after explaining the research. After this explanation all the students in both groups were volunteered to be in this research.

Instruments

Web Assisted English Grammar Learning Web Site. Before putting the research into practice, a web site where the students will do English grammar exercise is prepared. Opinions have been taken from subject teachers and education experts, while preparing most of the site. Corrections and additions were made with the help of the opinions and ideas that come from English language teachers and education experts. Later, the web site was used before the researcher, by three lycee students. Observations were made by the researcher while the students were working. The researcher observed while the students were using the site. Lastly, the sections which the students were stuck on were checked. The web site is now ready for use. The prepared web site was loaded on two servers, the basic (www.mebnet.net/web_english) and the substitute (www.neu.edu.tr/web_english). The prepared web site was 7.96 MB large, and consisted of 91 folders and 3.916 files.

The English language Grammar Test (ELGT). This test was prepared to be used for pretest and last test of the research. At the beginning of the experimental procedure it was used for the pre-test, and at the end of the experimental procedure it was used for the last-test. The validity of the content was done according to the subject expert group opinion. The prepared the ELGT was tried by a pre-test group which consisted of 177 students for analyses of the items (discrimination & difficulty) and reliability coefficients of the test. According to the analysis of the ELGT items, whose items were 82 reduced to 60, because the discrimination and difficulty level of some questions were below the acceptance proportions. The index of discrimination ranged from .40 to .84. 19 items were on the easy level (0.79-0.81) 39 items on the medium level (0.45-0.69) and 2 items on the difficult level (0.28-0.38). The difficulty level of the ELGT was 0.62. As the result of the analyses, the KR.20 reliability coefficient was calculated 0.93. Again, according to the opinions of statistics experts, the English grammar test was done according to two-half test technique. As a result of the analyses, the first half was calculated as 0.87 in Alpha value, and the second half was 0.88. For the whole test, it was calculated as 0.87 (Spearman-Brown). According to Curickshank (1995) reliability coefficients above .85 are considered acceptable.

The English Language Attitude Scale (ELAS). This attitude scale was used on the experiment and control groups to see the changes of the tested conduct of English language. The ELAS developed by Gürel (1986). The reliability coefficient of the scale was calculated as 0.95. The Likert type scale consisted of 22 positive and 22 negative questions. The scale was used in the research by Aytürk (1999). Every item that was asked was evaluated with the five option scale of “Strongly agree” (5), “Agree” (4), “Neither agree nor disagree” 3, “Disagree” (2) and “Strongly disagree” (1). The highest of total points (220) indicates positive attitude, and lowest point (44) indicates negative attitude. The highest point one can get by marking “Neither agree nor disagree” (132) indicates natural attitude. In other words, those who gets over 132 points direct towards positive attitude and those who gets below 132 points direct towards negative attitude.

Because ELAS was developed to cultural standards in Turkey before, adaptation was done for this scale to be used in the Turkish Cypriot culture. As a result of the factor analysis, items loaded value of the first factor changed between 0.39 and 0.87. The variance of the first factor was explained %43.3. According to Büyüköztürk (2002) variance of the first factor above %30 are considered acceptable. Additionally, the Cronbach Alpha reliability coefficient analysis done at the end of the application was calculated as 0.96, and the item-total correlation were calculated as 0.37 and 0.86.

Procedures

Due to the efficiency of computing knowledge and skills activities weren't applied on students. Before the application took place, a three hour meeting was done with the tested of the experimental group. At the time of the experiment, the English language grammar exercises were done with the experiment group in the schools' computer laboratory, and with the control group the exercises were done in the class-room. Both groups have had six hours of English language lesson a week. 4 hours of these are related knowledge and skills of speaking, writing, reading and listening together with the learning of grammar subjects and two hours consists of grammar exercises did with the web assisted instruction.

The students of the experiment group, tried to reinforce what they had learnt in one term by using web site, doing exercise, playing games with exercises, chatting and sending and receiving messages on the bulletin boards. The students of the control group however, tried to reinforce English language grammar by doing the exercises, playing games, and debating by using grammatical rules on paper.

Design

The data gained by the research was analyzed by using the statistic technique which is appropriate from the expert's point of view. Later, tables were formed, explained and commented on.

The data gained by the research was solved using the ANCOVA analysis technique and the Two-way ANOVA for Mixed measures. The statistic analysis techniques were checked to see if they were the encounter their assumption, than they used to analysis the data.

RESULTS

English Language Grammar Achievement

The ANCOVA analysis technique was used to see if there is a difference between the results of the tested, of the last test, which was adjusted according to the pre-test. Table 1 show the mean which have been adjusted according to the pre-test and last test.

Table 1. Pre-test, last test mean of the ELGT

Group	N	Pre-test Mean	Last Test Mean	Adjusted Mean
Experiment	29	19.24	42.68	42.75
Control	28	19.64	35.75	35.68

It is seen in Table 1 that the score of the ELGT mean before the experimental procedure of the experiment group was $M=19.24$ and control group was $M=19.64$. After the experimental procedure, the average of the ELGT was as follows; experiment group $M=42.68$, and the control group $M=35.75$. The groups' adjusted mean score of the ELGT last-test was; experiment group $M=42.75$, and control group $M=35.68$.

According to the adjusted score of the ELGT points, the subjects of the experiment group achieved better results than the control group. The significant difference the ELGT ANCOVA results seen between the two groups have been given in Table 2.

Table 2: ANCOVA result of pre-test and last test mean of the ELGT

Source	Sum of Squares	df	Mean Squares	F	Sig.	Eta Squared	Explanation
Corrected Model	1226.515	2	613.258	6.066	.004	.183	P<.01
Pre-test	540.467	1	540.467	5.346	.025	.090	P<.05
Group	710.928	1	710.928	7.032	.010	.115	P<.05
Error	5458.944	54	101.092				
Total	94635.000	57					

As it will be seen in Table 2, the experiment and control groups' adjusted last test mean results have been adjusted according to the pre-test and there was an important difference ($F_{(1;54)}=7.032$, $p<.05$). This results shows that the web assisted instruction makes an important difference in their behavior of English language grammar.

In other word, the experimental group's adjusted last test mean the ELGT score ($M=42.75$) was higher than of the control groups ($M=35.68$).

When the values of Eta-square were examined, it was seen that the English language grammar last test points' changeability without depending on the pre-test results were %18.3.

It is claimed, depending on the results of the ANCOVA analysis that web assisted English language instruction is more effective and successful then that of the traditional teaching of English grammar. So, the achievement of the students increases when English language grammar teaching is done from web assisted. Students learn at a higher level when learning from web assisted.

As it is known, knowledge and skills like reading, writing, listening and speaking is developed in language education. Grammar supports these basic knowledge and skills. With this finding, it can be generally said that reading and writing skills assisted by the web-assisted instruction can be more effective then traditional teaching.

English Language Attitudes

The ANOVA (two-way ANOVA for mixed measures) analysis technique was used to see if there was a significant difference in the mean points of the pretest and last test according to the control group and the experimental group attitude towards English language. Table 3 shows the means of the pre-test and last test results.

Table 3. Pretest and last test mean of the ELAS

Group	N	Pretest		Last Test	
		M	SD	M	SD
Experiment	29	150.96	26.98	156.48	24.04
Control	28	152.32	28.36	145.00	26.51

In Table 3, it is seen that before the experimental procedure the mean points of the ELAS were; the experimental group M=150.96, and the control group M=152.32. After the experimental procedure the mean points of the ELAS mean points were; the experimental group M=156.48, and the control group M=145.00. Thus an increase was seen in the mean points of the ELAS, however there was a decreased in subjects of the control group. The difference is given in Table 4.

Table 4. ANOVA result of pretest and last test mean of the ELAS

Source	Sum of Squares	df	Mean Square	F	Sig.	Explanation
Between Subjects	36352.105	56				
Group	730.465	1	730.465	1.128	.293	P>.05
Error	35621.640	55	647.666			
Within Subjects	1197.248	57				
Pre-test-Last test	23.185	1	23.185	.031	.862	P<.05
Group*Attitude	1174.063	1	1174.063	1.55	.218	P>.05
Error	41648.674	55	757.249			
Total	37549.353	112				

As it will be seen in Table 4 there is a difference between the pre-test and last test mean point ($F_{(1;55)}=1.55$, $p>.05$). This result shows that it didn't make a significant difference in the attitude measures. According to this result it could be said that there isn't an attitude difference to English language between the students learning English grammar the traditional way and those learning the web assisted way. Even though, there is no difference between the control and the experimental group attitude tests, we could say that English language grammar learning by the web assisted way is more effective, as it can be observed in Table 3 the experimental group was got higher mean in the scale, moreover the experimental group got higher rates in the test reports. In short, it can be said that the attitude of subjects who are learning English language grammar the web assisted way is more positive.

CONCLUSIONS

Conclusions, which were attained by the discoveries found in this research, are as follows:

- 1.1. The experimental group results of the English language grammar last test is in favor of the experimental group who's learning English language grammar by the web assisted way rather than that of the control group.
- 1.2. There is a significant difference in the adjusted last test according to the experiment and control groups' English language grammar pretest.

- 1.3. There is an important difference in the results in the attitude toward English last test of the two groups. There is a higher mean in favor of the experimental group. It is outstanding that the mean difference is at higher value but statistically is not significant.

RECOMMENDATIONS

There are valuable recommendations which are related to conclusions of the research:

1. It could be said that, in the process of teaching and learning English, when the exercises are done with the web assisted instruction, it increases the achievement of students, then those who use the traditional method. Moreover, if English language grammar is practiced with the help of the web, the achievement of the students can be higher to that of traditional education.
2. Exercises to do with the education of English grammar shouldn't be perceived as questions and answers, students should also take advantage of the chatting, games playing, bulletin boards and pen pals.
3. Games should be perceived as elements of the process of teaching, Students should benefit from games connected with English learning in the process of teaching-learning at the right time and place.
4. The prepared web site "Web Assisted English Learns" may be used in respect of English language knowledge and skills like writing and reading together with English language grammar exercises, by English teachers and other lectures.
5. Other web sites connected to other lessons should be prepared by the education environments in order to support the process of teaching learning. Moreover, every teacher should be technically and educationally supported in preparing their own web site related to their major subjects.

Suggestions related to researches done.

1. Experimental researches should be done one by one to see the effectiveness of the means of web assisted instruction, like Chat Rooms, Bulletin Boards, E-mails, Pen pals.
2. Experimental researches should be done one by one to see the effect of the level knowledge and skills of reading, writing, speaking, and listening on the students' achievement.
3. Researches should be done to evaluate the other web sites on the Internet that gives English language education with criterions.

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